REMARKS

I. Introduction

The Office Action of December 29, 2006 has been reviewed and the Examiner's comments carefully considered. This Amendment amends independent claims 1 and 26, cancels withdrawn method claims 50-82, and provides new claims 83-115 in place of withdrawn method claims. No new matter is found in new claims 83-115 and no additional fees are required for these claims. Withdrawn claims 17-25 remain in this application and Applicants respectfully request rejoinder of these claims for the reasons detailed herein but mainly because these claims claim nearly identical subject matter to that found in claims 31-33 and 44-48, examined and rejected in the outstanding Office Action, and, therefore, should properly remain in this application rather than being the subject of a divisional application. Applicants reserve the right to file a divisional application directed to non-elected and now cancelled method claims 50-82.

Applicants have also filed a Supplemental Information Disclosure Statement with the requisite fee with this Amendment. The Supplemental Information Disclosure Statement identifies the published versions (i.e., corresponding patent or publication) of the applications identified in the "Related Applications" section of the present application and any references identified during the prosecution of those applications that are not already of record in this application.

Finally, Applicants amended the specification to include missing related application Serial No. data.

II. Election/Restriction

As indicated above, Applicants believe that claims 17-25 should be rejoined into this application due to their similarity with claims 31-33 and 44-48, examined and rejected in the present Office Action. It will be clear from a quick comparison between claims 17-25 and claims 31-33 and 44-48 that the overlap in claimed subject matter is nearly identical. Accordingly, there is no additional burden on the Examiner by rejoining claims 17-25 into this application as examination of claims 31-33 and 44-48 will necessarily cover the subject matter of claims 17-25. The maintenance of claims 17-25 in this application will save examining effort and reduce the cost of prosecuting these claims in a divisional application for Applicants. Rejoinder of claims 17-25 is therefore respectfully requested.

III. 35 U.S.C. § 102(b) Rejections

Claims 1-6, 8-10, 12-16, 26-30, 36-40, and 42 stand rejected under 35 U.S.C. § 102(b) for anticipation by United States Patent No. 5,584,671 to Schweitzer, Jr. et al. ("Schweitzer"). Applicants respectfully traverse these rejections for the following reasons.

Independent claim 1 sets forth an injector system that includes a source of injection fluid, a pump device, a fluid path set disposed between the source of injection fluid and the pump device, and comprising a multi-position valve, and a fluid control device operatively associated with the fluid path set. The fluid control device includes a valve actuator located to operate the multi-position valve. The valve actuator is adapted to close the multi-position valve to isolate the pump device from a patient and stop flow of the injection fluid to the patient at substantially any pressure or flow rate generated by the pump device for delivering a sharp bolus of the injection fluid to the patient.

Independent claim 26 sets forth a fluid control device that includes a fluid path set comprising a multi-position valve adapted to associate a patient and a source of injection fluid with a pump device, and a valve actuator located to operate the multi-position valve to selectively isolate the pump device from the patient and place the pump device in association with the source of injection fluid for supplying the injection fluid to the pump device.

Independent claims 1 and 26 include minor clarifying changes relating to the valve actuator being "located" to operate the multi-position valve rather than "adapted to" to avoid any semblance of "functional" only language. Independent claim 26 was clarified to identify that the pump device is not necessarily required to be in fluid communication with the source of injection fluid.

Schweitzer is directed to a fluid delivery system including a pump (16) and a fluid delivery set (11). The fluid delivery set (11) includes a stop cock valve (19) operatively coupled to a valve actuation unit (14). The fluid delivery set (11) further includes a pair of inlet tubes (17, 18) which are connected to fluid containers and a patient connector tube (25).

It is respectfully submitted that a *prime facie* case of anticipation with respect to independent claims 1 and 26 has not been established over the teachings of Schweitzer. In particular, Schweitzer does not anticipate claims 1 and 26 for the simple reason that no structure or device exists between pump (16) and patient connector tube (25) that could in any way isolate, selectively or otherwise, a pump device from a patient as described in independent claims 1 and

26. In contrast, stop cock valve (19) identified in the Office Action as a multi-position valve is located far upstream from pump (16) and, therefore, is not able to isolate pump (16) from a patient (associated with patient connector tube (25)) as called for in both independent claims 1 and 26. Stop cock valve (19) is located to provide fluid communication between one of the pair of inlet tubes (17 or 18) and an outlet tube (21) of fluid delivery set (11) as set forth at column 8, lines 1-21 of the Schweitzer patent. Accordingly, while stop cock valve (19) in the Schweitzer fluid delivery set (11) may be able to isolate one of the pair of inlet tubes (17, 18) from outlet tube (21), it cannot isolate pump (16) from a patient (i.e., patient connector tube (25)). Fig. 1 of Schweitzer clearly shows that pump (16) is positioned directly upstream from and in fluid communication with patient connector tube (25) with no structure or device present that could isolate pump (16) from patient connector tube (25). Accordingly, independent claims 1 and 26 cannot be anticipated by Schweitzer and reconsideration of the rejection of claims 1 and 26 is respectfully requested. United States Patent No. 6,099,502 to Duchon et al. and United States Patent No. 5,057,081 to Sunderland also cited in the Office Action do not overcome the foregoing deficiencies with Schweitzer.

Claims 2-16 and 27-49 depend from and add further limitations to independent claims 1 and 26 or an intervening claim and are allowable for the reasons discussed hereinabove in connection with independent claims 1 and 26.

IV. 35 U.S.C. § 103 Rejections

Claims 7, 11, 41, and 43-49 stand rejected under 35 U.S.C. § 103(a) for obviousness over Schweitzer in view of United States Patent No. 6,099,502 to Duchon et al. ("Duchon"). Claims 31-35 stand rejected under 35 U.S.C. § 103(a) for obviousness over Schweitzer in view of United States Patent No. 5,057,081 to Sunderland. It is noted that claims 7, 11, 41 and 43-49 depend from and add further limitations to independent claims 1 and 26 and claims 31-35 depend from and add further limitations to independent claim 26. Applicants respectfully traverse these rejections for the following reasons.

Duchon discloses an angiographic injector system (10) for injecting radiographic contrast material into a blood vessel. The system (10) includes a syringe holder (16), a syringe body (18), a syringe plunger (20), a radiographic material bottle (22), a check valve (24) and a manifold (26) (see Fig. 1). Duchon is cited in the Office Action for allegedly teaching an air detector assembly.

Duchon fails to overcome the deficiencies of Schweitzer for several reasons. First, with respect to independent claims 1 and 26, these claims generally set forth that the fluid path set includes a multi-position valve between a source of injection fluid and a pump device. While Duchon discloses a check valve (24) between radiographic material bottle (22) and syringe body (18) it is clear that a check valve is not a multi-position valve as generally set forth in independent claims 1 and 26. Second, while Duchon discloses a manifold (26) and a manual three-way stop cock valve (34) downstream of syringe body (18), neither of these devices has an associated valve actuator for effecting operation of the manifold (26) and/or manual three-way stopcock valve (34) nor is any such device suggested in Duchon. Accordingly, Duchon does not cure the previously discussed deficiencies of Schweitzer. Therefore, claims 7, 11, 41 and 43-49 are patentable for the reasons discussed previously in connection with independent claims 1 and 26. Reconsideration of the rejection of claims 7, 11, 41, and 43-49 is respectfully requested.

As noted previously, claims 31-35 depend from and add further limitations to independent claim 26. Sunderland is specifically cited in connection with claims 31-35 and is directed to a peristaltic infusion device. Sunderland is cited for allegedly teaching the claimed structure of a drip chamber. However, Sunderland does not cure any of the deficiencies of Schweitzer and Duchon discussed previously and no further commentary is required. Accordingly, claims 31-35 are patentable for the reasons discussed hereinabove in connection with independent claim 26. Reconsideration of the rejection of claims 31-35 is respectfully requested.

V. New Claims

New claims 83-115 are added in the foregoing amendments. New claim 83 is in independent form and new claims 84-98 depend directly or indirectly from claim 83. Claims 84-98 are similar to original claims 2-16. Independent claim 83 is similar to independent claim 1 and is allowable for generally the same reasons discussed previously in connection with independent claim 1. It is noted that this claim sets forth that the valve actuator is adapted to place the multi-position valve in a position to permit the injection fluid to be associated with the pump device and is further adapted to close the multi-position valve to isolate the pump device from a patient. Neither the actuated stop cock valve (19) in Schweitzer nor the manifold (26) and manual three-way stop cock valve (34) in Duchon are physically capable of accomplishing these multi-taskings. Allowance of new claims 83-98 is therefore respectfully requested.

New claim 99 is independent form and is similar to independent claim 26 and is allowable for generally the same reasons discussed previously in connection with independent claim 26. As with independent claim 83, claim 99 states that the valve actuator is adapted to place the multi-position valve in a position to permit the injection fluid to be associated with the pump device and is further adapted to close the multi-position valve to isolate the pump device from the patient. Accordingly, the foregoing comments with respect to claim 83 are applicable to claim 99. Claims 100-115 depend directly or indirectly from independent claim 99 and are similar to claims 27-42. Allowance of new claims 99-115 is respectfully requested.

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 1-16, 26-49, and 83-115 are respectfully requested.

VI. Conclusion

Should the Examiner have any questions regarding any of the foregoing or wish to discuss this application in further detail to advance prosecution, the Examiner is invited to contact Applicants' undersigned representative at the telephone number provided below.

Respectfully submitted,

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